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EXAMINER	
JOY, DAVID J	

ART UNIT	PAPER NUMBER
1774	

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/501,330	ZAGDOUN, GEORGES	
	Examiner	Art Unit	
	David J. Joy	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/04/2004; 07/22/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in France on 06 March 2002. It is noted, however, that applicant has not filed a certified copy of the FR 02/02832 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 20 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 20 provides for the use of the application of the substrate to the manufacture of glazing or of filters for display screens, and Claim 21 provides for the use of the application of the substrate for plasma screens. However, since both of the claims do not set forth any steps involved in a method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it

merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 20 and 21 are rejected under 35 U.S.C. 101 because the claimed recitations of a use, without setting forth any steps involved in a process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example Ex parte Dunki, 153 USPQ 678 (Bd.App. 1967) and Clinical Products, Ltd. v. Brenner, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-9, 11, 13-16, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by the U.S. Patent of Boire et al, drawn to a glazing pane having an anti-reflection coating (6,068,914; hereinafter "Boire").

9. With regard to Claim 1, Boire teaches a transparent substrate having at least one functional element on one face and an antireflection coating on the opposite face, and the coating is made up of a stack of thin dielectric layers having alternating high and low refractive indices (see Column 2, Lines 4-8).

10. In terms of Claim 2, Boire addresses the abrasion resistance of the substrate, though there is no mention of any specific antiscratch properties (see Column 2, Lines 38-41). However, since this property would be a direct result of the nature of the stack that makes up the coating, and Boire both teaches a stack that is the same as the stack in the instant application, and mentions the durability of the coating, the antiscratch properties would be inherent to the stack itself. As for the teaching of the haze of the

substrate, Boire addresses the concept of haze when the coating stack is applied to the substrate, by saying that the antireflection coating enables extremely transparent glazing panes to be obtained (see Column 5, Lines 21-23). Therefore, it can be concluded that haze is, in fact, zero (or nearly zero), which would read upon the limitation as claimed in the instant application.

11. As for Claim 3, Boire teaches that the multilayer antireflection coating is deposited on the substrate before the functional element is deposited (see Column 3, Lines 33-37, see also Column 4, Line 64 – Column 5, Line 1).

12. In Claim 4 it states the multilayer is based on Si_3N_4 or SnO_2, and SiO_2. In Boire, the layers in the stack comprise the same selection of substances (see Column 3, Line 66 – Column 4, Line 14).

13. In terms of Claim 5, Boire teaches that the stack comprises, in succession: a high-index first layer having a refractive index between 1.8 and 2.2 and a thickness between 5 and 50 nm; a low-index second layer having a refractive index between 1.35 and 1.65 and a thickness between 5 and 50 nm; a high-index third layer having a refractive index between 1.8 and 2.2 and a thickness between 70 and 120 nm; and a low-index fourth

layer having a refractive index between 1.35 and 1.65 and a thickness of at least 80 nm (see Figure 1c; see generally, Column 8, Lines 31-51 and Column 9, Lines 64-67).

14. With regard to Claim 6, Boire teaches that the stacked layers are Si_3N_4 / SiO_2 / Si_3N_4 / SiO_2 (see Column 3, Line 66 – Column 4, Line 14; see also Column 9, Lines 64-67; see also Figure 1c).

15. As for Claims 7-9, Boire teaches that the functional element is a metallic electromagnetic shielding element (see Column 7, Lines 42-47). By providing an element whose function is to provide solar protection, it can be concluded that such protection would extend to electromagnetic solar radiation, which meets the claimed limitation. Boire further teaches the functional element can consist of at least one conducting metal layer or a stack of layers including at least two silver layers (see Column 7, Lines 42-47).

16. In Claim 11 it states that the functional element consists of a network of wires in the form of a grid. In Boire, it teaches the functional element consists of an array of conductive wires, which reads on the limitation as claimed (see Column 7, Lines 53-58).

17. With regard to Claim 13, Boire teaches that the functional element is deposited directly onto the substrate (see Column 3, Lines 33-37).

18. As for Claim 14, Boire addresses that the functional element can be deposited onto a plastic film that is bonded to the substrate (see Column 5, Lines 8-12).

19. In terms of Claim 15, Boire teaches that the functional element is laminated between two plastic films, one of which is bonded to a substrate while the other film is bonded to a second substrate (see Figure 3; see also Column 11, Lines 35-42).

20. With regard to Claim 16, Boire discusses the functional element can be combined with a second functional element made of an antireflection coating (see Column 4, Line 64 – Column 5, Line 1). The possible addition of a second antireflection coating can be seen as an additional application made in conjunction with what is also claimed as being able to be applied to the opposite face of the substrate.

21. As for Claim 19, Boire teaches that the substrate is made of untoughened glass (see Column 7, Lines 30-39). Since the substrate can undergo tempering or toughening treatments after the coating layer(s) and functional elements are attached thereto, it is

possible to conclude that the glass substrate was untoughened prior to the application of the additives to each of its faces.

22. In Claim 1, the recitation of the phrase "characterized in that the antireflection coating is used as abrasion-resistant antiscratch coating" does not positively recite any definite structure over that which is taught by the Boire reference. Applicant has simply recited a potential characteristic of the coating, which merely refers to the intended use of the coating. Furthermore, applicant has not positively recited any elements that could potentially make the abrasion-resistant antiscratch coating which defines nothing structurally distinct over that of the coating as taught by Boire.

23. Claims 1, 2, 4-9, 11, 15-17, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by the U.S. Patent of Joret et al., drawn to a transparent substrate comprising an antiglare coating (6,924,037; hereinafter "Joret").

24. In terms of Claim 1, Joret teaches a transparent substrate having at least one functional element on one face and an antireflection coating on the opposite face, and the coating is made up of a stack of thin dielectric layers having alternating high and

low refractive indices (see Abstract; see also Column 2, Lines 21-27; see also Column 5, Lines 42-44).

25. With regard to Claim 2, Joret states that the coating on the external face of the substrate is a durable one at that, which would lead one to believe that the antireflection coating provides abrasion resistance and antiscratch properties (see Column 7, Lines 18-20). As for the specific properties, they would be the result of the nature of the coating that is applied, and since the coating in Joret is the same as that of the instant application, it can be deemed that the antiscratch properties are inherent to the coating composition itself.

26. As for Claim 4, Joret states that the multilayer is based on Si_3N_4 or SnO_2, and SiO_2,, which meets the limitation as claimed in the instant application (see Column 3, Lines 35-39 and Column 4, Lines 32-37).

27. In terms of Claim 5, Joret teaches that the stack comprises, in succession: a high-index first layer having a refractive index between 1.8 and 2.2 and a thickness between 5 and 50 nm; a low-index second layer having a refractive index between 1.35 and 1.65 and a thickness between 5 and 50 nm; a high-index third layer having a refractive index

between 1.8 and 2.2 and a thickness between 70 and 120 nm; and a low-index fourth layer having a refractive index between 1.35 and 1.65 and a thickness of at least 80 nm (see Abstract; see also Column 2, Lines 20-39 and Column 3, Line 62 – Column 4, Line 13).

28. With regard to Claim 6, Joret teaches that the stacked layers are Si_3N_4 / SiO_2 / Si_3N_4 / SiO_2 (see Column 3, Lines 35-39 and Column 4, Lines 32-37).

29. As for Claims 7-9, Joret teaches that the functional element is a metallic electromagnetic shielding element, in that the functional element has a low emissivity function (see Column 5, Lines 42-49). Joret also provides that the functional element can consist of at least one conducting metal layer or a stack of layers including at least two silver layers (see Column 5, Lines 42-46).

30. In terms of Claim 11, Joret states that the functional element consists of a network of wires in the form of a grid. Specifically, the functional element can be an array of heating wires, which reads on the claimed limitation (see Column 5, Lines 54-56).

31. As for Claim 15, Joret teaches that the functional element is laminated between two plastic films, one of which is bonded to a substrate while the other film is bonded to a second substrate (see Column 6, Lines 21-28).

32. With regard to Claims 16 and 17, Joret teaches the functional element can be combined with a second functional element made of an antireflection coating (see Column 5, Lines 61-63). The presence of the aforementioned functional element and also providing an antireflection stack reads on the limitation as claimed.

33. In terms of Claim 19, Joret teaches that the substrate is made of untoughened glass (see Column 8, Lines 46-47). Since it is clear that the glass can be toughened after the layers have been deposited thereon, it is possible to conclude that the glass substrate was made of untoughened glass and then the coatings and elements were applied to each of its faces.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the

reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim Rejections - 35 USC § 103

34. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

35. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

36. Claims 10, 12, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boire, as applied to claims 1-9, 11, 13-16, and 19 above, and Joret, as applied to claims 1, 2, 4-9, 11, 15-17, and 19 above, and further in view of the U.S. Patent

Application Publication of Za-Gdoun et al, drawn to a transparent substrate comprising metal elements and use thereof (2003/0099842; hereinafter "Za"). The discussions hereinabove of both Boire and Joret are incorporated by reference.

37. In terms of Claim 10, both Boire and Joret are silent as to multilayer stack having the following sequence: Si_3N_4 / ZnO / Ag / Ti / Si_3N_4 / ZnO / Ag / Ti / ZnO / Si_3N_4. However, Za clearly teaches that very sequence for the stack of thin layers (see ¶ [0019]). Therefore, it would have been obvious to a person having ordinary skill in the art to employ such a sequence for the stack of thin layers at the time of invention, since the teachings of Za, which pertain to the same field of invention, clearly meet the limitation as claimed.

38. As for Claim 12, the teachings of Boire and Joret fail to address that the functional element can consist of a combination of a stack of silver-based thin layers and a network of wires in the form of a grid. But, in Za, teaches that it is possible to have a stack of thin layers facing the metal mesh, with the stack comprising at least one conductive metal layer of the silver type (see ¶ [0031]). Therefore, since both references relate to analogous fields of invention, it would have been obvious for a person having

ordinary skill in the art to combine the two elements together against the surface of the substrate.

39. With regard to Claim 18, neither Boire nor Joret, discuss that the second functional element is an adhesive antireflection film. In Za, a thermoplastic polymer is used against the silver functional element and acts as a protective film with respect to the layers and it also introduces lamination to the glass substrate (see ¶ [0079]). Consequently, as both references relate to analogous arts, it would have been obvious to a person having ordinary skill in the art to use such a second functional element at the time of invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Joy whose telephone number is (571) 272-9056. The examiner can normally be reached on Monday - Friday, 9:00 AM - 5:00 PM EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena L. Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DJJ
11/15/2006

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11/21/06